Github usage

- There are two repos created
  - NPU-on-rk3588 (https://github.com/AndrewJNg/NPU-on-rk3588)
    - This was to test the RKNN code solely on the NPU alone, prior to combining with openpilot
  - openpilot-rk3588 (https://github.com/AndrewJNg/openpilot-rk3588)
    - this is a fork of openpilot, with attempted code to run the neural network model
      (master as of 1/5/24 - commit 04e239f7ed329ec2be7c1190d9a02f78d02b5e8e)

Detailed listing

NPU-on-rk3588

- there were various attempts of utilising different platforms
  - dmonitoring_cpp (passed, but unsure about input_dtypes formatting)
  - dmonitoring_python (successful)
  - nav_model_python (successful)
  - supercombo_python (successful)
  - openpilot
    - wrote in python, the main file openpilot.py is actually the rknn file in openpilot, it is using a placeholder name for now

openpilot-rk3588

- the 3 rknn models are added in selfdrive\modeld\models
    - dmonitoring_model.rknn
    - navmodel.rknn
    - supercombo.rknn
- Modifications are made in “selfdrive\modeld\runners”
    1) **__init__**.py function, added .RKNN to the list
    2) added rknnmodel.py
        - This is the main file to run each model, the way openpilot treats such folders are to obtain the following from the model itself
            - name of the inputs (eg. ‘input_img’ and ‘calib’)
            - input_shapes
            - input_dtypes (Warning)
              (would need to be careful as the conversion may have changed the shape, not sure if the code for input shaping would put it in the correct format yet)
    3) rknn model paths are added in each higher level model runner
        - dmonitoringmodeld.py
        - models.py
        - navmodeld.py